09/090,476

FIG. 1

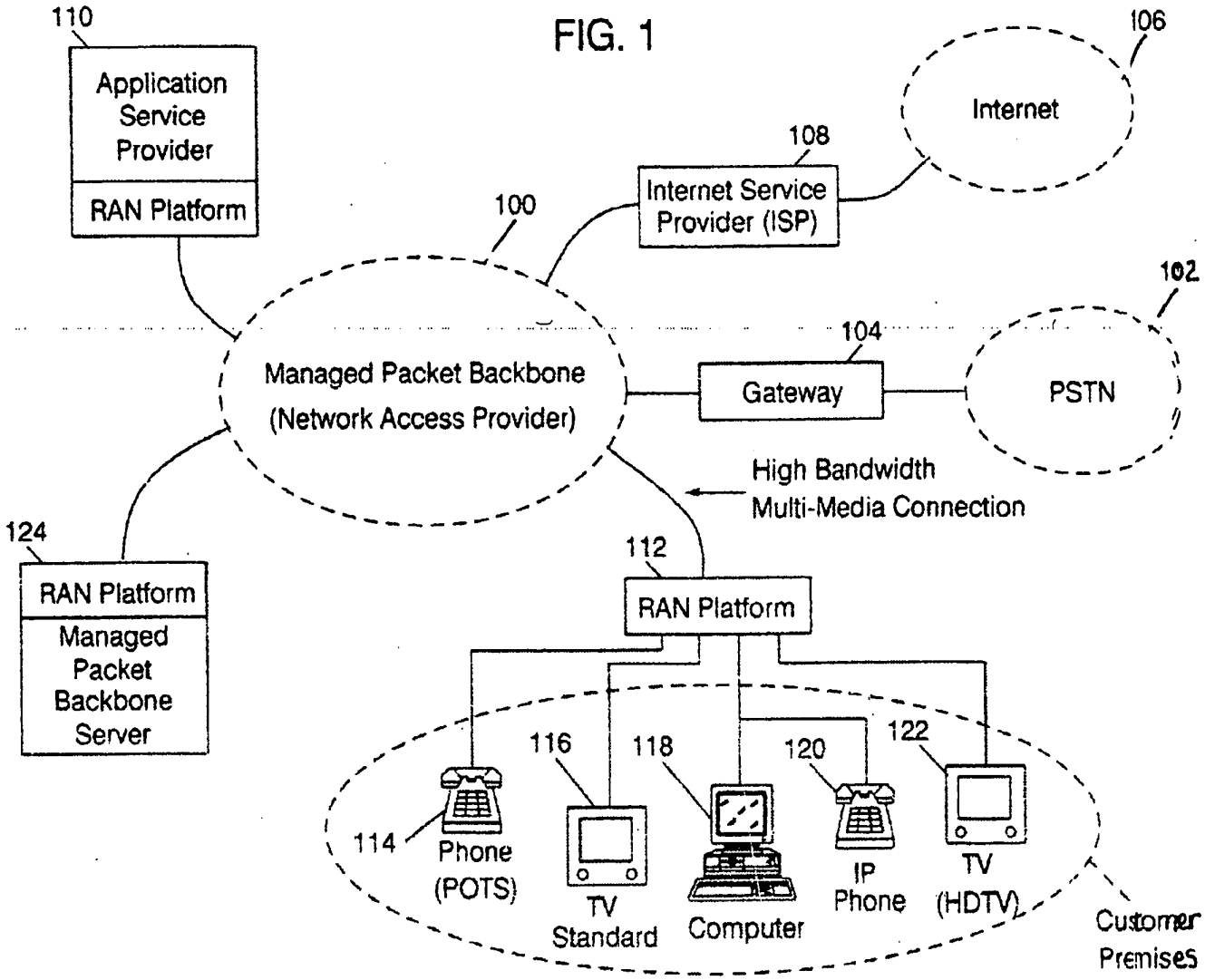


FIG. 2

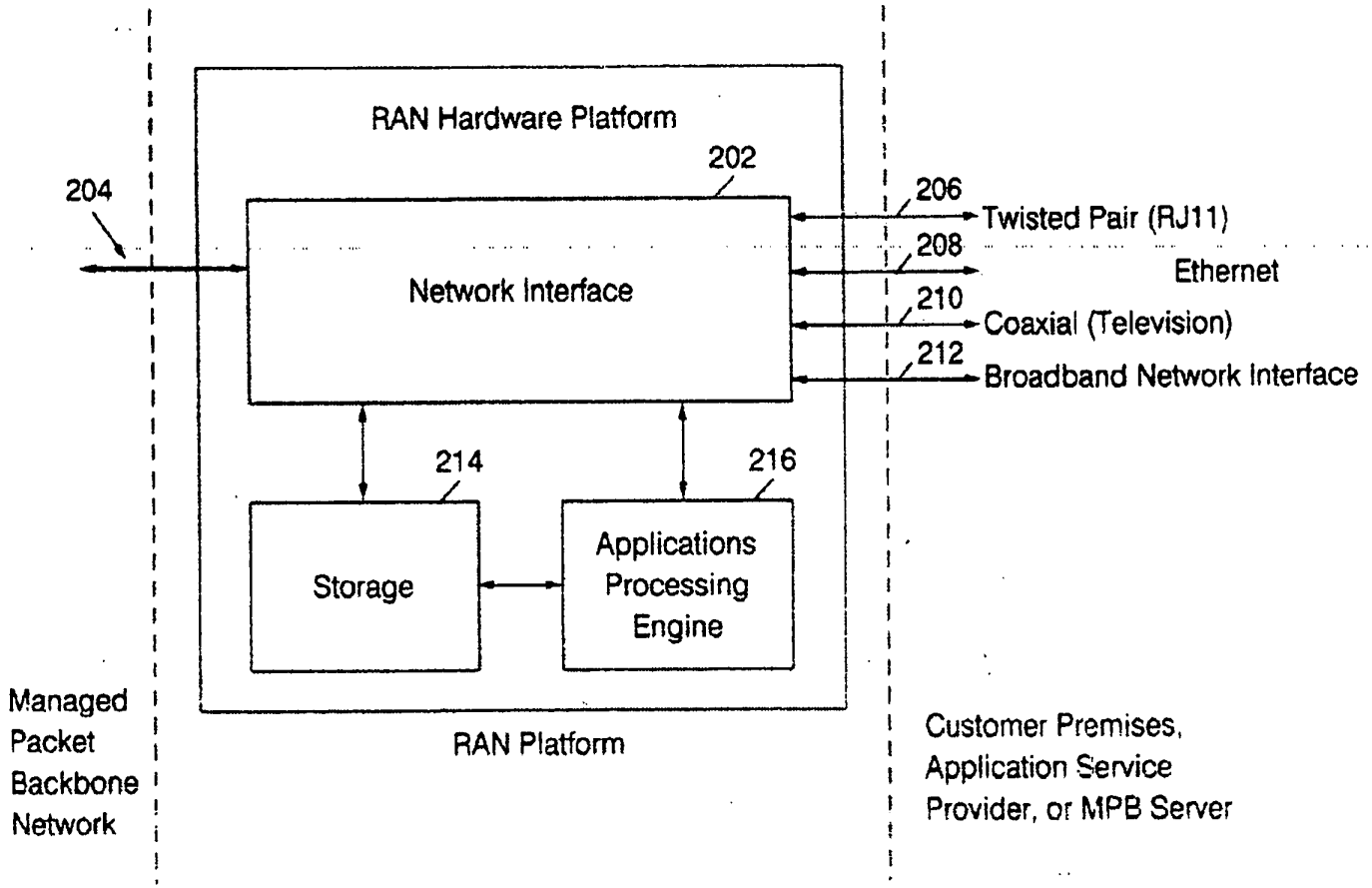

RAN Hardware Platform
202
204
206
Twisted Pair (RJ11)
208
Ethernet
Network Interface
210
Coaxial (Television)
212
Broadband Network Interface
214
216
Storage
Applications Processing Engine
Managed Packet Backbone Network
RAN Platform
Customer Premises, Application Service Provider, or MPB Server

FIG. 3
PRIOR ART

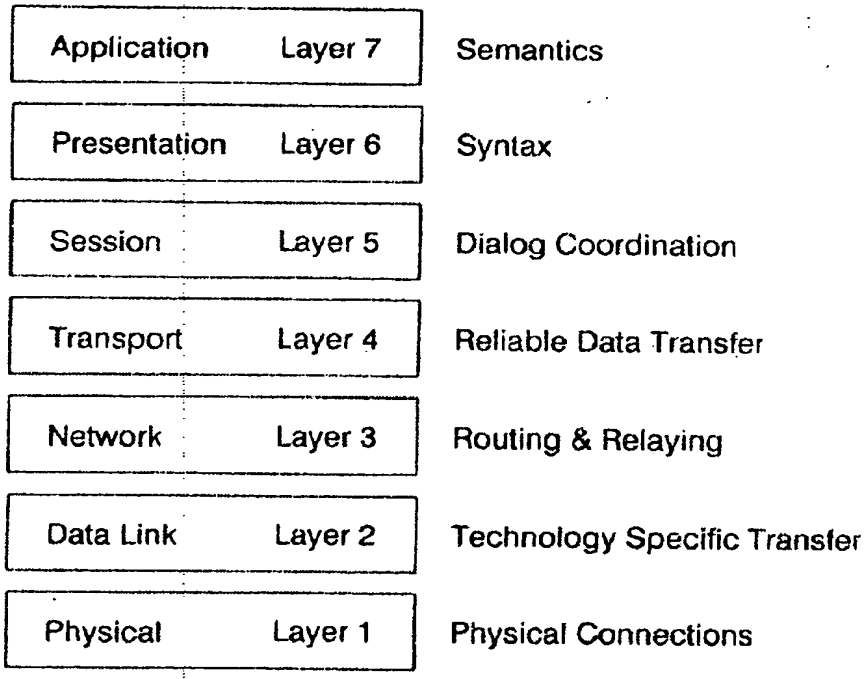


FIG. 4

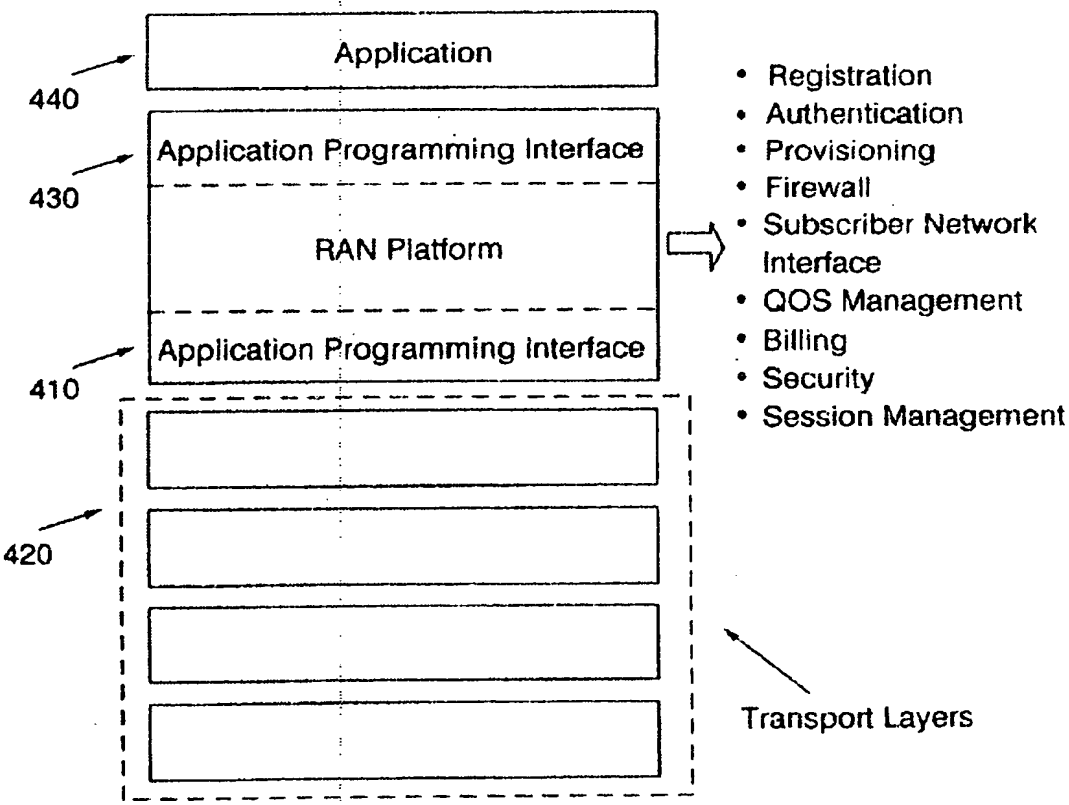

Application
440
Application Programming Interface
430
RAN Platform
Application Programming Interface
410
420
• Registration
• Authentication
• Provisioning
• Firewall
• Subscriber Network Interface
• QOS Management
• Billing
• Security
• Session Management
Transport Layers

FIG. 5

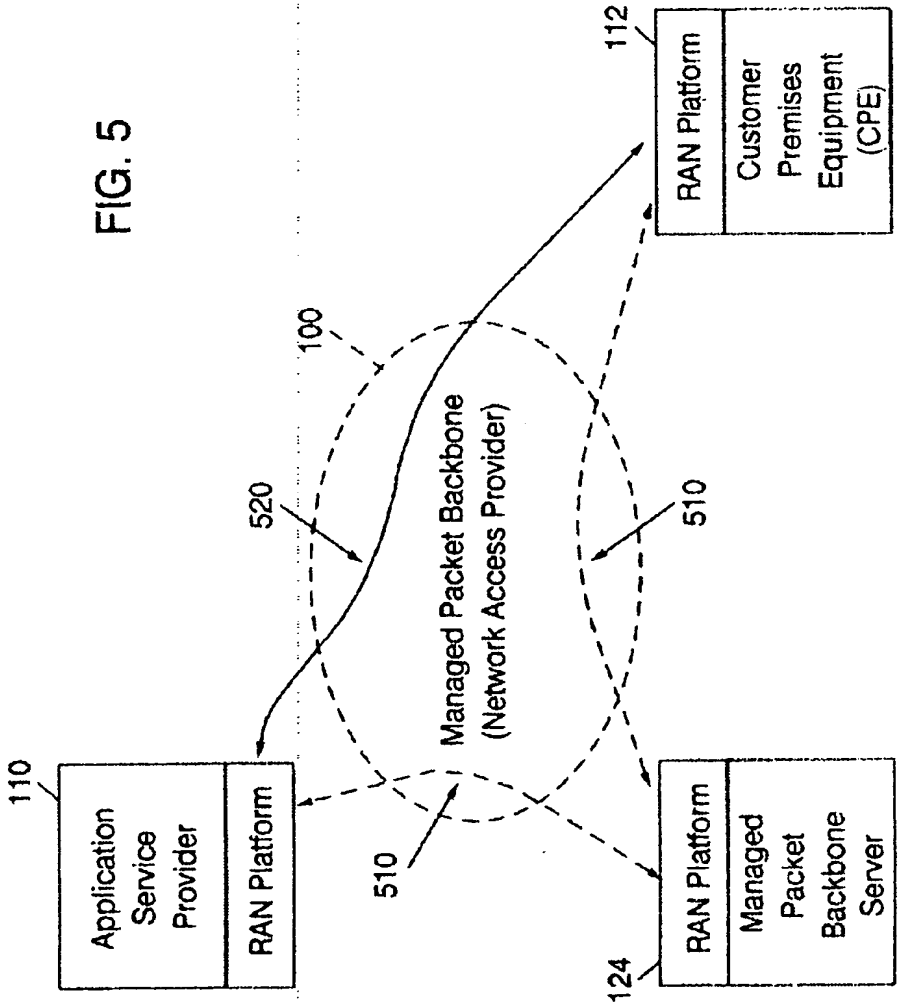

110
Application Service Provider
RAN Platform
520
100
Managed Packet Backbone (Network Access Provider)
510
510
112
RAN Platform
Customer Premises Equipment (CPE)
124
RAN Platform
Managed Packet Backbone Server

FIG. 6A

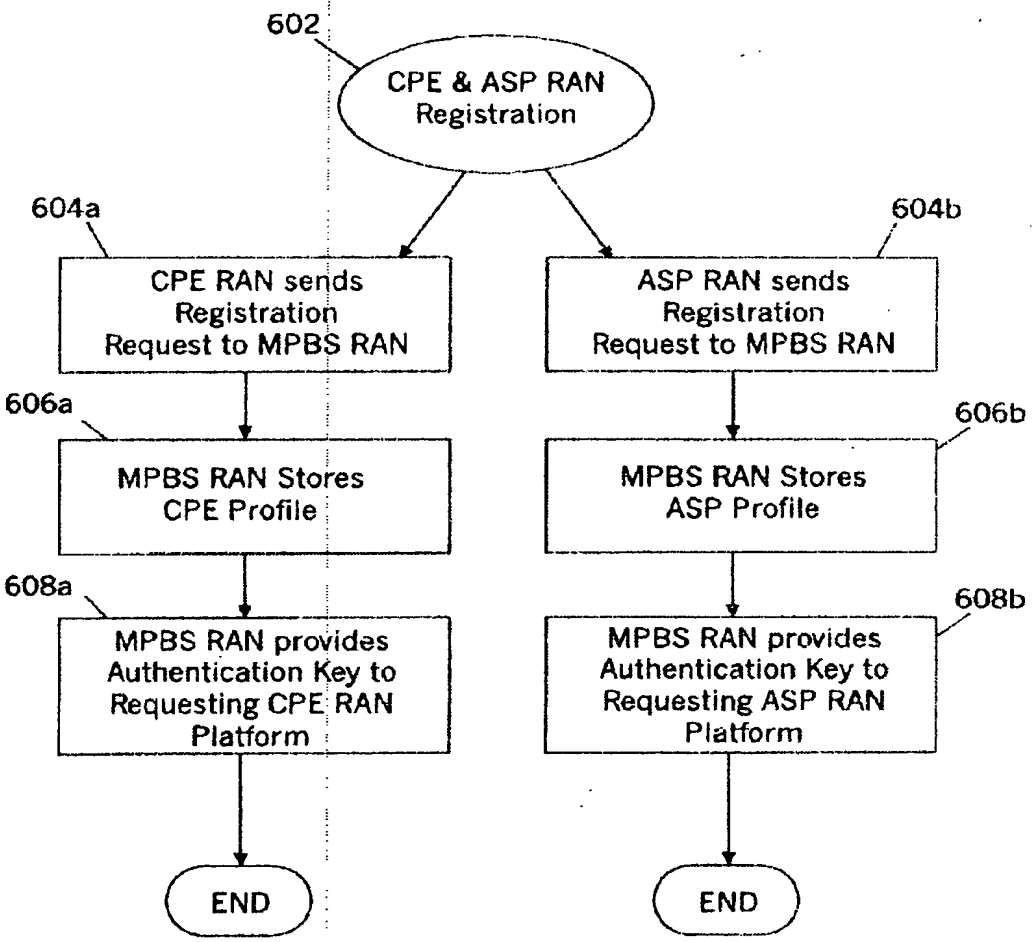

602
CPE & ASP RAN Registration
604a
CPE RAN sends Registration Request to MPBS RAN
604b
ASP RAN sends Registration Request to MPBS RAN
606a
MPBS RAN Stores CPE Profile
606b
MPBS RAN Stores ASP Profile
608a
MPBS RAN provides Authentication Key to Requesting CPE RAN Platform
608b
MPBS RAN provides Authentication Key to Requesting ASP RAN Platform
END
END

FIG. 6B

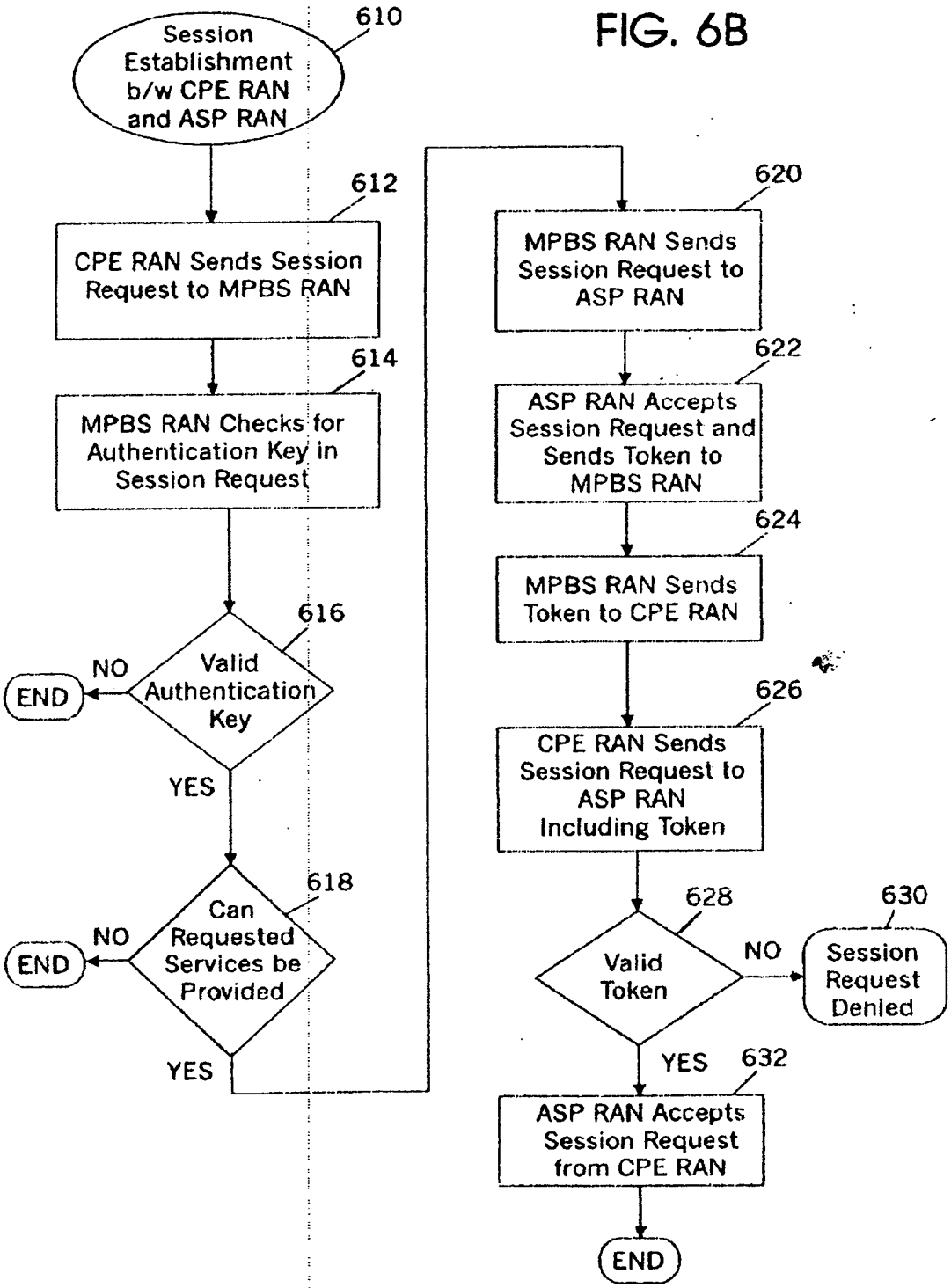

Session Establishment b/w CPE RAN and ASP RAN
610
CPE RAN Sends Session Request to MPBS RAN
612
MPBS RAN Checks for Authentication Key in Session Request
614
Valid Authentication Key
616
NO
END
YES
Can Requested Services be Provided
618
NO
END
YES
MPBS RAN Sends Session Request to ASP RAN
620
ASP RAN Accepts Session Request and Sends Token to MPBS RAN
622
MPBS RAN Sends Token to CPE RAN
624
CPE RAN Sends Session Request to ASP RAN Including Token
626
Valid Token
628
NO
Session Request Denied
630
YES
ASP RAN Accepts Session Request from CPE RAN
632
END

FIG. 6C

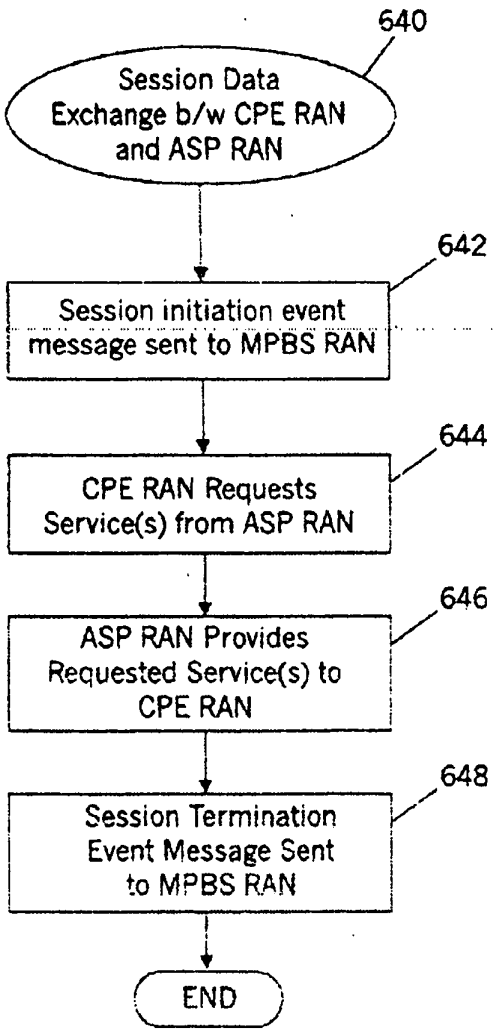
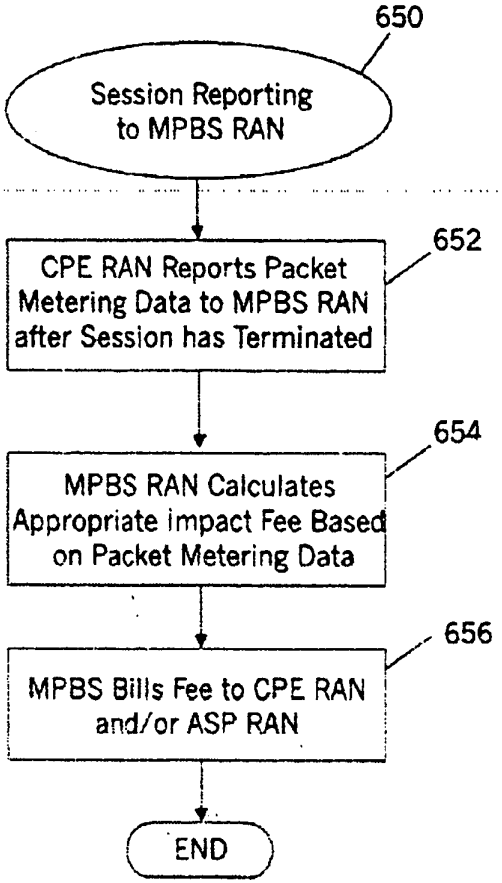

640
Session Data Exchange b/w CPE RAN and ASP RAN
642
Session initiation event message sent to MPBS RAN
644
CPE RAN Requests Service(s) from ASP RAN
646
ASP RAN Provides Requested Service(s) to CPE RAN
648
Session Termination Event Message Sent to MPBS RAN
END

FIG. 6D


650
Session Reporting to MPBS RAN
652
CPE RAN Reports Packet Metering Data to MPBS RAN after Session has Terminated
654
MPBS RAN Calculates Appropriate impact Fee Based on Packet Metering Data
656
MPBS Bills Fee to CPE RAN and/or ASP RAN
END